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The inaugural essay
on the
Dysentery of Lycoming Co. Penn.
in 1824.

By James Rankin

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Very fine & quiet

Cloudy & cool

Very quiet

Dysentery

The precise nature of the poisonous principle which produces the autumnal dysentery, has as yet eluded the most laborious research; our knowledge of it being only of a negative nature. It cannot be azote, carbonated hydrogen, ammonia, or any other gas with which we are acquainted, uncombined with any other principle, which produces this disease, since the effect of these is but of short duration. In investigating this subject chemical labor has proved futile; the most festiferous air affording on analysis, a result, in no way different from that of common air. Though industry and patient investigation have been foiled in this point, the research has not been entirely fruitless; for by this means something has been added to what was before known of the laws by which epidemic disorders are governed.

That the autumnal dysentery is produced by marsh miasma requires but little proof, its assuming the same type, its appearing at the same seasons, as the foci which are

well known to have this origin, and the frequent changes which take place from dysentery to fever ~~and vice versa~~, are strong evidences of their being derived from the same source. It is also a strong evidence in favor of this conclusion, that the dysentery which is produced by parasitic aliment, differs from the autumnal, the former always running a continued course whereas the latter is generally either remittent or intermittent.

The number of advocates for the contagious nature of dysentery is yearly diminishing, the proofs which they can bring in support of their opinion appear to be insufficient to convince medical men who are much conversant with the disease; though supported by the authority of the ancients. It argues strongly in favor of the noncontagious nature of dysentery that it appears to proceed from the same source as the common bilious fever, which is almost universally acknowledged to be noncontagious. Notwithstanding what has been said, it may be that there is a typhus dysentery which is contagious.

* in Dr. Potter's note to Armstrong on typhus dysentery

Before physicians should adopt the doctrine of the contagious nature of such a disease as this is, it should be founded on the most incontrovertible basis; else the sick might, without cause, be left to perish alone; the principle of self-preservation being so powerful, as to sever the bonds of consanguinity and friendship.

The doctrine of the contagious nature of this and of many other diseases is daily losing ground; the light which emanates from our medical schools is rapidly dispelling the mists of prejudice from the mental horizon; and though we cannot expect to be entirely free from the clouds of error, we may confidently look for a still clearer light. The operation of miasma appears to be modified by moisture and heat, and perhaps by other circumstances. When the ground is thoroughly wet the effluvia are generally productive of gastro-intestinal disorder, when more dry moist, of intermittent and ordinary bilious ^{fever} _{etc}.

The course of the disease of Sycamore C. in

* See Chapman on Epidemics

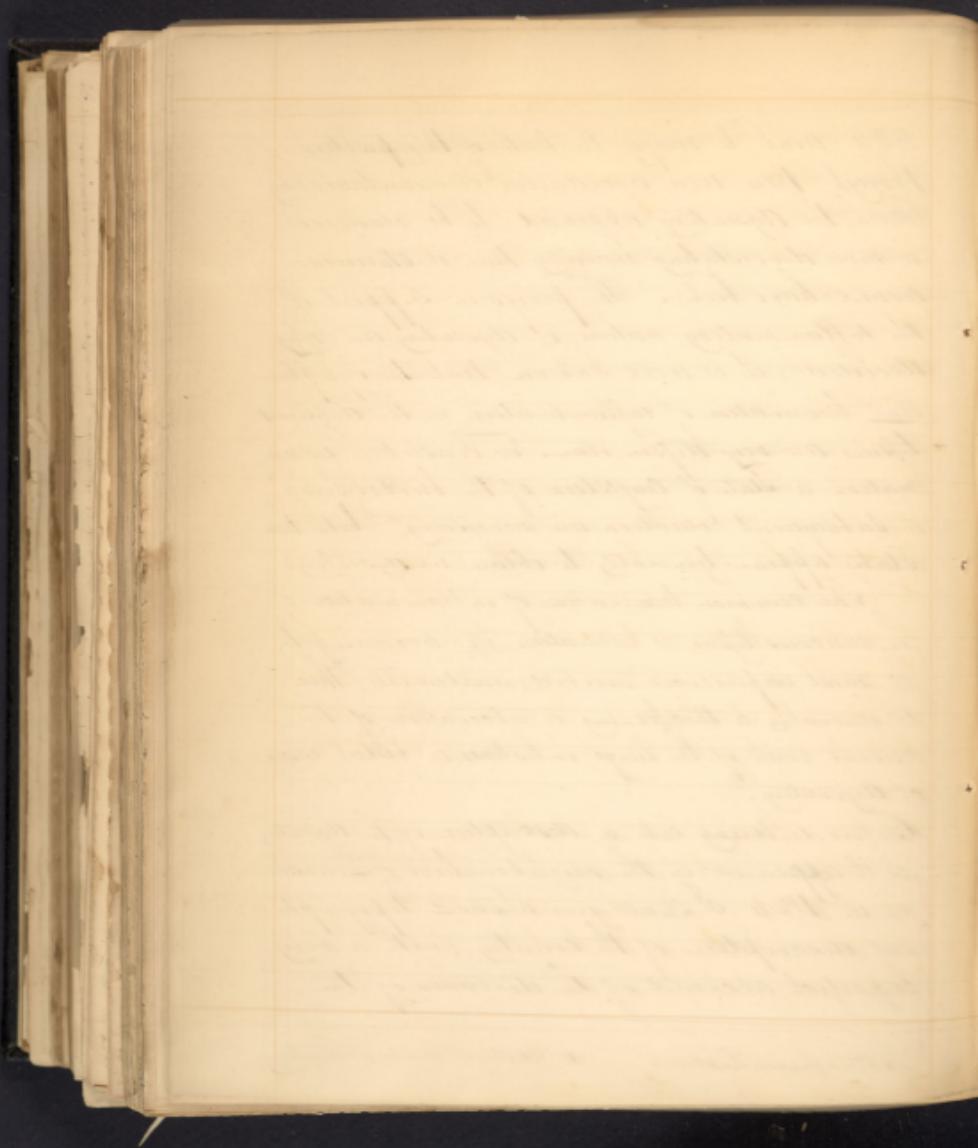
1824 went to verify the truth of this position, though there were accidental circumstances by which, the dysentery appeared to be rendered a more devastating malady than it otherwise would have been. The proofs in support of the inflammatory nature of dysentery are very decided; it is well known that the symptoms and termination of inflammation in the different tissues are very dissimilar. To constitute inflammation a state of congestion of the blood vessels & a subsequent reaction are necessary, both these states appear generally to obtain in dysentery.

The common termination of inflammation of the mucous tissue is ulceration, and according to the most experienced morbid anatomists, there is generally a thickening or ulceration of the villous coat of the large intestines in fatal cases of dysentery.

Before entering into a description of the dysentery as it appeared in the neighbourhood of Dennis[†] in 1826 I shall give a short topographical description of the country, with a very imperfect account of the diseases of the

* Chapman's Lectures

† Baillie's morbid anatomy



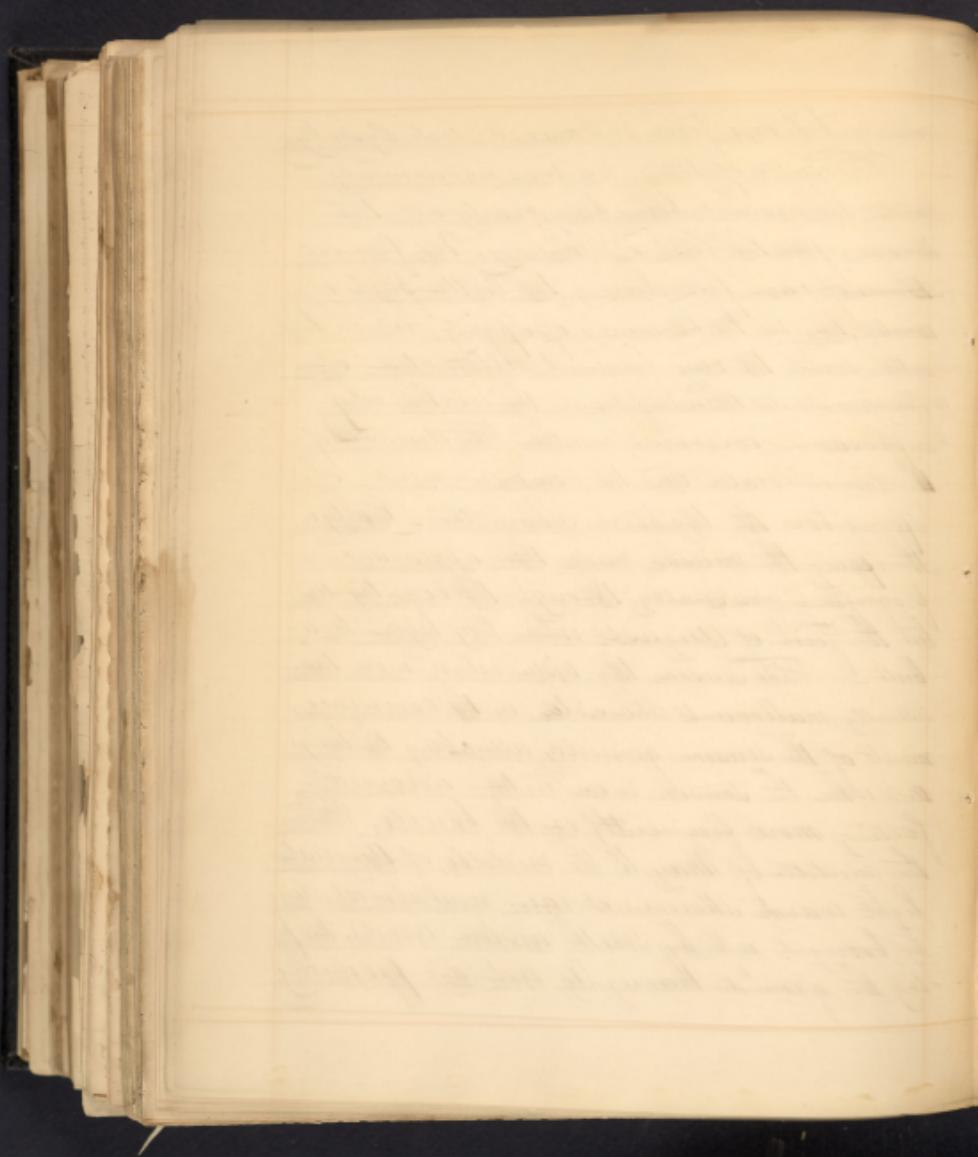
preceding winter and spring in that neighbourhood.

Pennsboro is a small village situated on the east side of the west branch of the Susquehanna, about ~~six~~^{about} six miles above its junction with the north branch. About 20 or 25 square miles on the east side of the river is nearly level, and is but little elevated above the bed of the river. In this tract of land the stones which are near the surface of the ground, as not generally appear ranged in strata, most of them are rounded and of the same kind as those in the beds of rivers. This circumstance together with there being no outlet through the surrounding hills, toward the south or low country, gives great plausibility to the opinion that this portion of country once formed the bed of a lake.

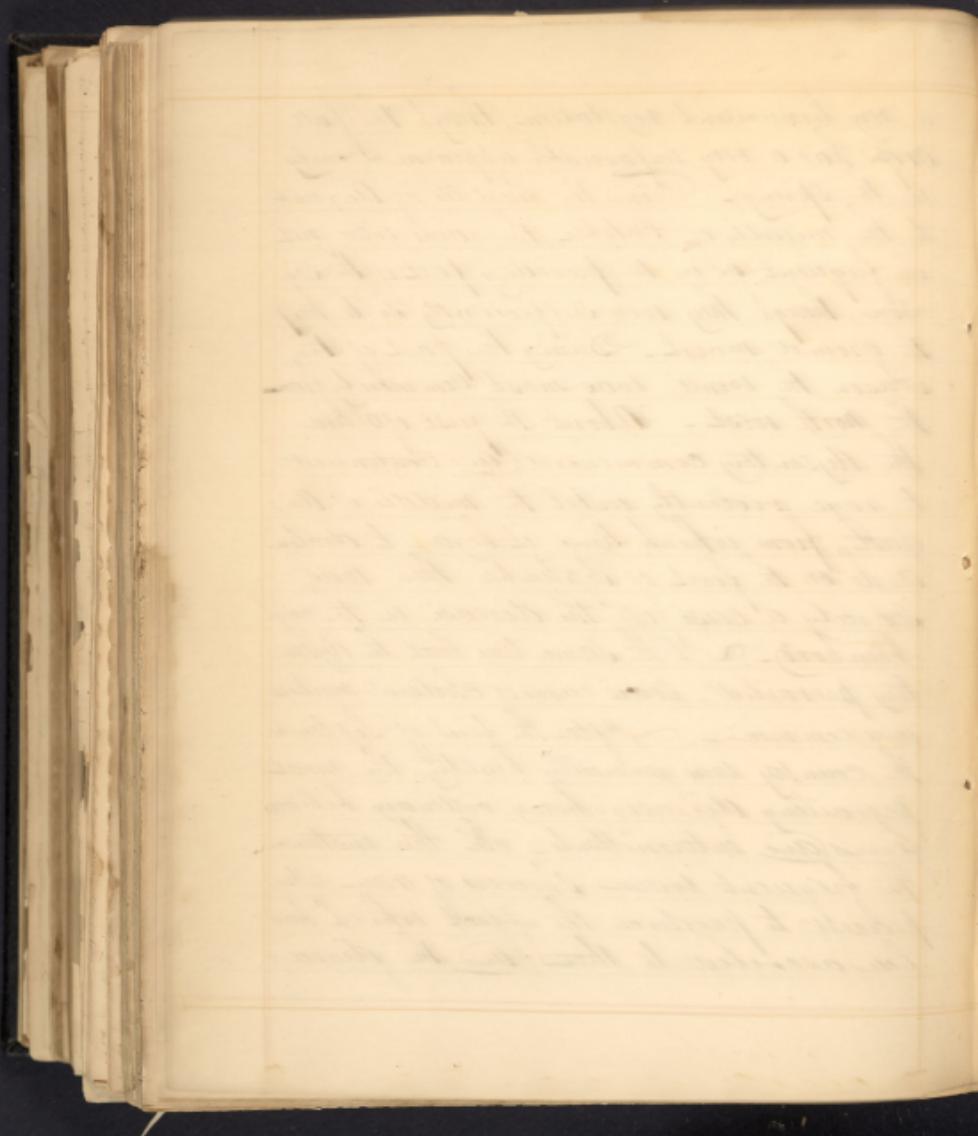
The land portion of county is bounded by the Nancy hills, and the country further removed from the river is elevated and uneven. In the summer of 1823 the depresion was prevalent in the hills to the eastward of Pennsboro, while the low country was subject to

ordinary bilious fever intermixed with Hydrocephaly

The winter of 1723. 24 was uncommonly mild, the ground being bare nearly all the season after the first of January. Very frequent showers of rain fell during the latter part of winter ~~and~~ in the beginning of Spring, which together with the very frequent alternation of freezing and thawing made the weather very unpleasant for several months. The disease of the close of winter ~~and~~ the commencement of spring bore the typhous character. Early in the spring the measles made their appearance progressing gradually through the country till the first of August when they began to abate. This season, they assumed a more than usually malignant character; in the commencement of the season generally attacking the lungs and when the season was further advanced falling more frequently on the bowels. From the middle of May to the middle of August light warm showers of rain were almost daily brought up by south western winds, keeping the ground horribly wet and producing



a very luxuriant vegetation, though the fall crops had a very unfavorable appearance early in the spring. From the middle of August to the middle of October the rains were not so frequent as in the preceding part of the season, though they were sufficiently so to keep the ground moist. During this part of the season the wind was most commonly from the North West. About the first of September the dysentery commenced and continued to rage violently until the middle of October, from which time it began to decline and on the first of September there was scarcely a case of the disease in the neighbourhood. At the same time that the dysentery prevailed, severe cases of cholera morbus were common. After the first of September the country was generally healthy, the most prevailing diseases being ordinary bilious fevers and intermittents. In this instance the frequent short showers of rain appeared to produce the effect which has been ascribed to them, and the disease



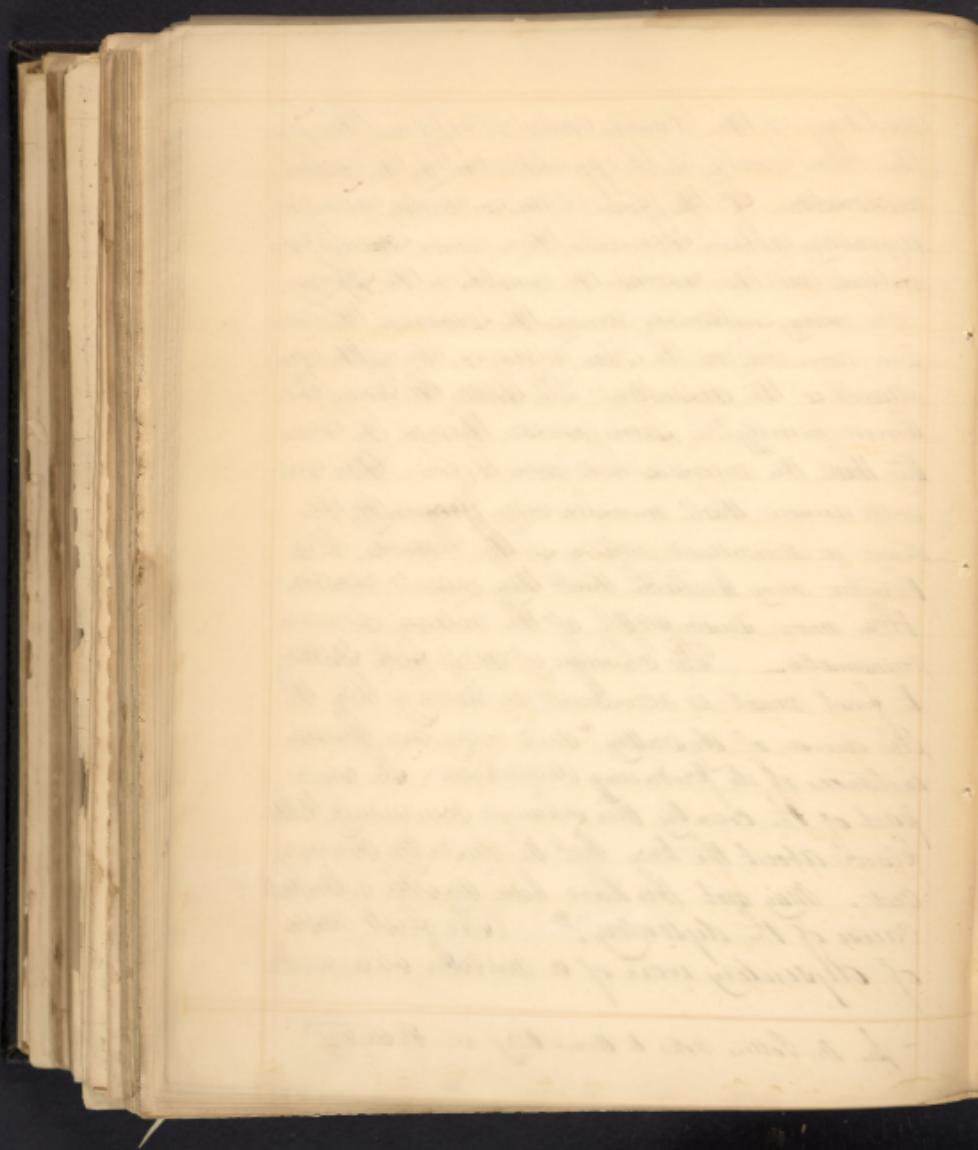
ses of the season followed the course which according to Ferguson they generally pursue.

It is not improbable that the course of the winds had some influence in rendering the country unhealthy. For as long as the wind continued frequently to blow from the South west, the dysentery raged violently, but when the wind changed and blew for some time from the North west, the country became healthy. A respectable practitioner of Granville Town^a informed me that during the summer of 1793, whenever the wind was from the south west, the number of those who were daily taken down with the fever was much augmented. "During a week" said he "in which the wind was from the North west those that were sick began to recover and there were but few new cases but suddenly the wind changed and blew from the South west and in two days there were no less than forty new cases in the town and township adjoining. The Measles appeared to me to produce a

weakness of the bowels and to dispose the system more easily to be operated on by the marsh miasma. - Of the first fifteen or twenty cases of dysentery which occurred, there was scarcely one patient that had not had the measles in the Spring.

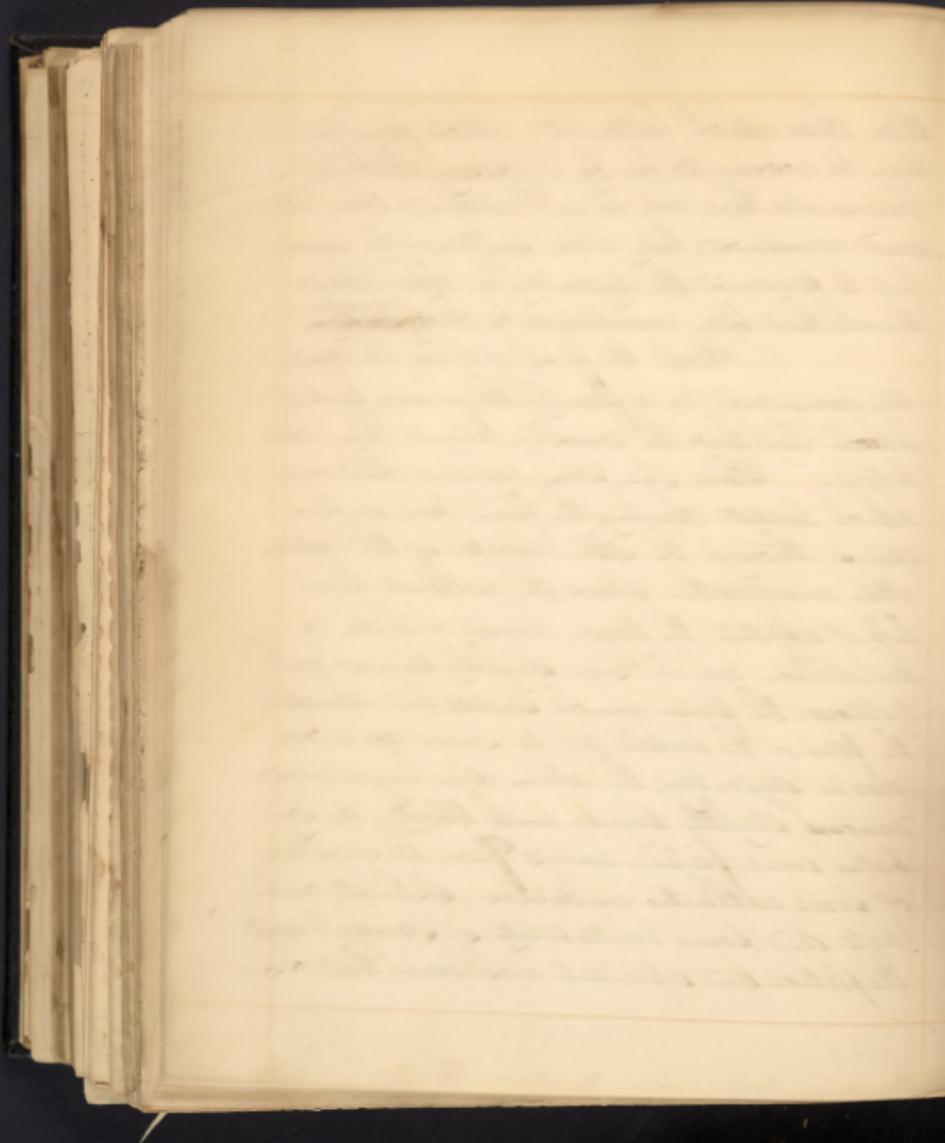
In many instances, during the summer, the measles came out on the skin, a day or two after an attack of the dysentery. The latter disease followed nearly the same course, through the country that the measles had gone before. We are well aware that measles very frequently produce a disordered action of the bowels, it is therefore very probable that they might render them more susceptible of the action of marsh miasma. - The change of diet from salted to fresh meat is recorded, as having been the sole cause of dysentery,* and every one knows instances of its producing diarrhoea. In our part of the country this change commonly takes place about the time that the dysentery commences. May not this have been another important cause of the dysentery? The first cases of dysentery were of a milder character

* see Dr. Potter's Notes to Arms long on Dysentery



than those which followed, which perhaps may be accounted for by supposing that the malady had not as yet attained their utmost virulence; but were sufficiently powerful to produce the dysentery in those whose bowels had been weakened by the ~~measles~~ ^{measles}.

About the first of June the dysentery commenced in a family the junior part of which had had the measles about three weeks before. Their symptoms were a chilliness which lasted during the first four or five days, though the skin except of the extremities was rather above the natural heat; loss of appetite, the tongue covered with an incrustation which was slightly tinged with yellow, the pulse quick, small and thready, the pain of the bowels not so severe as is common in dysentery; the albumen discharges were mucous slightly tinged with blood, no scybala were passed unless from the operation of some cathartick medicine; obstinate constipation and some irritability of Stomach until depletion and aperient medicines had been



once successfully used. In accordance with the instructions of distinguished medical authority, I bleed one or twice copiously from the arm, and if this did not ameliorate the symptoms, it evidently paved the way for the use of other medicines, rendering the operation of cathartics much more quick and powerful than if it had been omitted.

In these cases after bleeding, an emetic was administered to remove some oppression which existed at the pit of the stomach. This together with the cathartic which was subsequently given, much alleviated the irritability of that organ. To open the bowels I found calomel sometimes with opium & followed by small portions of sulphat of magnesia repeated until purging was intended to be the most effectual means which I attempted to use. After the bowels were once cleared, castor oil or Epsom salts could be retained on the stomach and answer the purpose of evacuation very well. A dose of one of these was given on every alternate

day. And in the interval pills of Calomel
opium & Specacualta were given as re-
commended by Dr. Chapman; these pills
produced a more natural appearance to
the stools, and an almost entire relief from
the pain. Astringents were evidently but
useful as long as any degree of febrile action
remained. In the latter stage of several
cases which occurred in the month of June
when the appetite was beginning to return,
a slight degree of fever still remaining
with some tenesmus. And the stools generally
slimy. I administered infusion of Catechis
& cinnamon with tinct. of opium, but
with the effect of increasing the fever and
tenesmus. From this time astringents were
laid aside except in cases of diarrhoea
following dysentery; the flannel bandage
applied round the abdomen appeared to
be a much more powerful remedy even in
cases of diarrhoea subsequent to dysentery
And when there was vomit & fever and ten-
esmus with mucous stools recourse was

had to a mixture of tartar emetic and epsom salts, in sufficient quantity to produce daily two or three natural saline evacuations.

Until a month after the commencement of the dysentery it became more violent than it had previously been and assumed symptoms in some respects different from those which I had an opportunity of observing in preceding years. Many cases commenced with vomiting which approached nearly to cholera morbus; this was generally succeeded in five or six hours by retching and irritability of stomach nothing being thrown up except the ingesta. These cases could ~~generally~~ ^{readily} be distinguished from cholera by the appearance and scarcity of the stools, by the pain in the bowels and tenesmus. The pulse had not the same degree of tension and was not so quick as is usual in common cases of dysentery. The stools presented various appearances being sometimes of a dark greenish colour, and the blood which was mixed with them was generally of a dark colour; they ap-

peared to be a mixture of blood, mucus and
deranged bilious secretion. This appear-
ance of the stools generally continued du-
ring the first week of the disease, or until
the liver was emulged by appropriate
medicines. After this was accomplished
the stools became more scanty and of a light-
er colour than before, but were still tinged
with blood. Though there are few diseases
that reduce the system more rapidly than
the common form of dysentery, this form of
the disease was still more rapid in its pro-
gress. During the three months of the continuance
of this disease, about eighty fell victims
to it, in the small village of Pennsboro, and
the surrounding country to the extent of four
miles square. This disease seemed similar
to a species of dysentery which is said by
Dr. Clarke to have occurred in India &
the treatment recommended by him was
adopted, viz. in the first place to allay
the irritability of the stomach by the same
means as are used in cholera. When

called early, I attempted to cleanse the stomach by pouring in plentifully of a weak infusion of Chamomile - When the stomach was cleansed, the various means commonly used for allaying the irritability of the Stomach, were resorted to, viz. an opiate by the mouth, or (if not retained) as an injection, anodyne fomentations to the stomach and if these were ineffectual a blister to the epigastric region - Sometimes when other means had proved ineffectual to allay the irritability of the stomach a small quantity of rice water with a few drops of laudanum, administered every hour, was successful - Though in some cases all the means resorted to were totally useless, and though in most cases there remained some degree of irritability of stomach, through the whole course of the disease, yet in the greater number of cases by the adoption of this course of treatment, the stomach could be so much quieted as to retain some kinds of med-

icne - By high medical authority
the liver is said frequently to be engorged
in dysentery; supported by this opinion I
believed from the appearance of the stools
that this organ was implicated, in ma-
ny of the cases which I met with.

I commenced therefore purging with scrupu-
lous doses of calomel and small doses of opium
and followed by Epsom Salts (as men-
tioned above); after its operation small doses
of calomel and opium were administered
two or three times a day, the cacaum being
being left out on account of the irrita-
bility of the stomach - A purge of Epsom
Salts, which would generally lie better on
the stomach than castor oil, was given on
alternate days - By this plan of treat-
ment ptylepsis was induced in several
cases and whenever this took place the
patient recovered - In milder cases
as ptylepsis was not desirable a
different course was pursued - Instead
of the mercury, small doses of tartar

emetic and Epsom Salt were given to keep the bowels open, and produced a determination to the skin. A hot fomentation to the abdomen was frequently very effectual in allaying the pain of the bowels, and in the middle stage of the disease a blister to the abdomen had the most desirable effect. But "blistering" says Dr. Armstrong "in the latter stage of the disease produces too great an irritation on the weakened system. Warm bathing I prescribed with great advantage in the cases of children. Opium, if properly used is an invaluable remedy in the treatment of dysentery: large doses of opium may lull the pain for a time but the cause of the disease not being removed by it, the symptoms return after its effect is over, with aggravated force.

During the course of the disease the anti-phlogistic regimen should be strictly enforced; the diet should consist chiefly of animalaceous substances as Sago, tapioca &c.

But I found greater difficulty in regulating the diet during convalescence than during the violence of the disease; on account of the craving appetite of the patient and the anxiety of the friends to give him rich food in order to recruit his strength. A child of four years of age who was under my care was recovering slowly from dysentery, her appetite had become good, though the bowels were still in a disordered state, her attendants gave her, however, contrary to directions, as much as she could eat of salted fish, and in two hours afterwards the fever had risen very high, with delirium and an aggravation of the dysenteric symptoms. Not choosing to detract blood on account her great debility, nor to give her an emetic, because of the great determination to the head. I therefore gave her a dose of Epsom salt and put her in the warm bath, with a repetition of the purge on the following day. In a few days she again became conva-

escent (and finally recovered) —

local distribution

in the Royal Society

together

fall from

of

topic to

